

Date: March 27, 2015
To: Raj Singhvi, EPA/ERT Work Assignment Manager
From: Deborah Killeen, SERAS QA/QC Officer *DK*
Subject: Preliminary Results for St. John ER, WA# SERAS-001

Attached please find the preliminary results of the above referenced project for the following samples:

Chain(s) of Custody No.: No: 00263, 00227 and 00898
Analyses: VOC + TICs (SUMMA Canister)
No. of Samples: 5 Samples
Matrix: Air

Comments:

cc Central File: WA #SERAS-001
Task Leader: Solinski/Dubois
Analyst: G. Ball



Table 1.1 Result of the Analysis for VOC (ppbv) in Air
 WA# SERAS-001, St. John Methyl Bromide Response

Page 1 of 2

Method: SERAS SOP 1814

SERAS Sample Number	N/A	R503006-04	R503006-01	R503006-02
Sample Number	PSMethodBlank 032615-01	55003	55000	55001
Sample Location	N/A	Trip	Kitchen	Outside A/C
Analyte	Results ppbv	RL ppbv	Results ppbv	RL ppbv
Propylene	U 0.200	U 0.200	1.54	0.200 0.265 0.200
Dichlorodifluoromethane	U 0.0200	U 0.0200	0.285	0.0200 0.279 0.0200
Chloromethane	U 0.0200	U 0.0200	47.9	1.00 0.852 0.0200
Dichlorotetrafluoroethane	U 0.0200	U 0.0200		U 0.0200
Vinyl Chloride	U 0.0200	U 0.0200		U 0.0200
1,3-Butadiene	U 0.0200	U 0.0200		U 0.0200
Bromomethane	U 0.0200	U 0.0200	748	1.00 1.04 0.0200
Chloroethane	U 0.0200	U 0.0200		U 0.0200
Acetone	U 0.500	U 0.500	3.75	25.0 2.23 0.500
Trichlorofluoromethane	U 0.0200	U 0.0200	0.215	0.0200 0.239 0.0200
Isopropyl Alcohol	U 0.500	U 0.500	8.43	0.500 U 0.500
1,1-Dichloroethene	U 0.0200	U 0.0200		U 0.0200
Methylene Chloride	U 0.0200	U 0.0200	0.0806	0.0200 0.0716 0.0200
Trichlorotrifluoroethane	U 0.0200	U 0.0200	0.0806	0.0200 0.0892 0.0200
trans-1,2-Dichloroethene	U 0.0200	U 0.0200		U 0.0200
1,1-Dichloroethane	U 0.0200	U 0.0200		U 0.0200
MTBE	U 0.0200	U 0.0200		U 0.0200
Vinyl Acetate	U 0.0200	U 0.0200		U 0.0200 0.172 0.0200
2-Butanone	U 0.0200	U 0.0200	1.74	0.0200 0.111 0.0200
cis-1,2-Dichloroethene	U 0.0200	U 0.0200		U 0.0200
Ethyl Acetate	U 0.0200	U 0.0200	1.48	0.0200 U 0.0200
Hexane	U 0.0200	U 0.0200	0.0647	0.0200 0.0240 0.0200
Chloroform	U 0.0200	U 0.0200	0.0702	0.0200 U 0.0200
Tetrahydrofuran	U 0.0200	U 0.0200	1.54	0.0200 U 0.0200
1,2-Dichloroethane	U 0.0200	U 0.0200	2.90	0.0200 U 0.0200
1,1,1-Trichloroethane	U 0.0200	U 0.0200		U 0.0200 U 0.0200
Benzene	U 0.0200	U 0.0200	0.0540	0.0200 0.0303 0.0200
Carbon Tetrachloride	U 0.0200	U 0.0200	0.0889	0.0200 0.0724 0.0200
Cyclohexane	U 0.0200	U 0.0200	0.0243	0.0200 U 0.0200
1,2-Dichloropropane	U 0.0200	U 0.0200	0.0254	0.0200 U 0.0200
1,4-Dioxane	U 0.0200	U 0.0200	0.0475	0.0200 U 0.0200
Trichloroethene	U 0.0200	U 0.0200		U 0.0200 U 0.0200
Heptane	U 0.0200	U 0.0200	0.0894	0.0200 U 0.0200
cis-1,3-Dichloropropene	U 0.0200	U 0.0200		U 0.0200 U 0.0200
Methyl Isobutyl Ketone	U 0.0200	U 0.0200	0.154	0.0200 U 0.0200
trans-1,3-Dichloropropene	U 0.0200	U 0.0200		U 0.0200 U 0.0200
1,1,2-Trichloroethane	U 0.0200	U 0.0200		U 0.0200 U 0.0200
Toluene	U 0.0200	U 0.0200	0.539	0.0200 0.0423 0.0200
2-Hexanone	U 0.0200	U 0.0200	0.0651	0.0200 U 0.0200
Dibromochloromethane	U 0.0200	U 0.0200	0.0333	0.0200 U 0.0200
1,2-Dibromoethane	U 0.0200	U 0.0200		U 0.0200 U 0.0200
Tetrachloroethene	U 0.0200	U 0.0200		U 0.0200 U 0.0200
Chlorobenzene	U 0.0200	U 0.0200		U 0.0200 U 0.0200
Ethylbenzene	U 0.0200	U 0.0200	0.326	0.0200 U 0.0200
m&p-Xylene	U 0.0200	U 0.0200	0.450	0.0200 U 0.0200
Bromoform	U 0.0200	U 0.0200	0.0780	0.0200 U 0.0200
Styrene	U 0.0200	U 0.0200	1.84	0.0200 U 0.0200
1,1,2,2-Tetrachloroethane	U 0.0200	U 0.0200		U 0.0200 U 0.0200
o-Xylene	U 0.0200	U 0.0200	0.210	0.0200 U 0.0200
p-Ethyltoluene	U 0.0200	U 0.0200	0.0613	0.0200 U 0.0200
1,3,5-Trimethylbenzene	U 0.0200	U 0.0200	0.0486	0.0200 U 0.0200
1,2,4-Trimethylbenzene	U 0.0200	U 0.0200	0.187	0.0200 U 0.0200
1,3-Dichlorobenzene	U 0.0200	U 0.0200		U 0.0200 U 0.0200
1,4-Dichlorobenzene	U 0.0200	U 0.0200		U 0.0200 U 0.0200
1,2-Dichlorobenzene	U 0.0200	U 0.0200		U 0.0200 U 0.0200
Naphthalene	U 0.0200	U 0.0200	0.179	0.0200 U 0.0200

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Table 1.1 (cont) Result of the Analysis for VOC (ppbv) in Air
 WA# SERAS-001, St. John Methyl Bromide Response

Page 2 of 2

Method: SERAS SOP 1814

SERAS Sample Number	R503006-03		R503006-05	
Sample Number	55002		55004	
Sample Location	MBR		BR2	
Analyte	Results ppbv	RL ppbv	Results ppbv	RL ppbv
Propylene	3.88	10.0	1.47	0.200
Dichlorodifluoromethane	U	1.00	0.207	0.0200
Chloromethane	63.6	1.00	57.3	1.00
Dichlorotetrafluoroethane	U	1.00	U	0.0200
Vinyl Chloride	U	1.00	U	0.0200
1,3-Butadiene	U	1.00	U	0.0200
Bromomethane	1010	1.00	1120	1.00
Chloroethane	U	1.00	U	0.0200
Acetone	34.6	25.0	59.4	25.0
Trichlorofluoromethane	U	1.00	0.228	0.0200
Isopropyl Alcohol	U	25.0	9.05	0.500
1,1-Dichloroethene	U	1.00	U	0.0200
Methylene Chloride	U	1.00	0.0786	0.0200
Trichlorotrifluoroethane	U	1.00	0.0845	0.0200
trans-1,2-Dichloroethene	U	1.00	U	0.0200
1,1-Dichloroethane	U	1.00	U	0.0200
MTBE	U	1.00	U	0.0200
Vinyl Acetate	U	1.00	U	0.0200
2-Butanone	U	1.00	1.79	0.0200
cis-1,2-Dichloroethene	U	1.00	U	0.0200
Ethyl Acetate	1.49	1.00	1.49	0.0200
Hexane	U	1.00	0.0566	0.0200
Chloroform	U	1.00	0.0693	0.0200
Tetrahydrofuran	1.31	1.00	1.62	0.0200
1,2-Dichloroethane	3.66	1.00	2.93	0.0200
1,1,1-Trichloroethane	U	1.00	U	0.0200
Benzene	U	1.00	0.0506	0.0200
Carbon Tetrachloride	U	1.00	0.0819	0.0200
Cyclohexane	U	1.00	U	0.0200
1,2-Dichloropropane	U	1.00	0.0252	0.0200
1,4-Dioxane	U	1.00	U	0.0200
Trichloroethene	U	1.00	U	0.0200
Heptane	U	1.00	0.104	0.0200
cis-1,3-Dichloropropene	U	1.00	U	0.0200
Methyl Isobutyl Ketone	U	1.00	0.161	0.0200
trans-1,3-Dichloropropene	U	1.00	U	0.0200
1,1,2-Trichloroethane	U	1.00	U	0.0200
Toluene	U	1.00	0.537	0.0200
2-Hexanone	U	1.00	0.0768	0.0200
Dibromochloromethane	U	1.00	0.0334	0.0200
1,2-Dibromoethane	U	1.00	U	0.0200
Tetrachloroethene	U	1.00	U	0.0200
Chlorobenzene	U	1.00	U	0.0200
Ethylbenzene	U	1.00	0.337	0.0200
m&p-Xylene	U	1.00	0.465	0.0200
Bromoform	U	1.00	0.0824	0.0200
Styrene	1.60	1.00	1.82	0.0200
1,1,2,2-Tetrachloroethane	U	1.00	U	0.0200
o-Xylene	U	1.00	0.221	0.0200
p-Ethyltoluene	U	1.00	0.0630	0.0200
1,3,5-Trimethylbenzene	U	1.00	0.0503	0.0200
1,2,4-Trimethylbenzene	U	1.00	0.191	0.0200
1,3-Dichlorobenzene	U	1.00	U	0.0200
1,4-Dichlorobenzene	U	1.00	U	0.0200
1,2-Dichlorobenzene	U	1.00	U	0.0200
Naphthalene	U	1.00	0.187	0.0200

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Table 1.2 Result of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
 WA# SERAS-001, St. John Methyl Bromide Response

Page 1 of 2

Method: SERAS SOP 1814

Analyte	N/A		R503006-04		R503006-01		R503006-02	
	Sample Number	PSM Method Blank	032615-01		55003		55001	
			N/A	Trip	55000	Kitchen	Outside A/C	
Analyte	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$
Propylene	U 0.344	U 0.344	U 0.0344	1.41	0.0989	U 0.0989	1.38	0.0989
Dichlorodifluoromethane	U 0.0989	U 0.0989	U 0.0989	98.3	2.07	U 0.140	1.76	0.0413
Chloromethane	U 0.0413	U 0.0413	U 0.0413	U 0.140	U 0.140	U 0.140	U 0.140	U 0.140
Dichlorotetrafluoroethane	U 0.140	U 0.140	U 0.140	U 0.0511	U 0.0511	U 0.0511	U 0.0511	U 0.0511
Vinyl Chloride	U 0.0511	U 0.0511	U 0.0511	U 0.0442	U 0.0442	U 0.0442	U 0.0442	U 0.0442
1,3-Butadiene	U 0.0442	U 0.0442	U 0.0442	2900	3.88	4.06	0.0777	0.0777
Bromomethane	U 0.0777	U 0.0777	U 0.0777	U 0.0528	U 0.0528	U 0.0528	U 0.0528	U 0.0528
Chloroethane	U 0.0528	U 0.0528	U 0.0528	8.91	59.4	5.31	1.19	1.19
Acetone	U 1.19	U 1.19	U 1.19	U 0.112	U 0.112	U 0.112	U 0.112	U 0.112
Trichlorofluoromethane	U 0.112	U 0.112	U 0.112	U 0.0793	U 0.0793	U 0.0793	U 0.0793	U 0.0793
Isopropyl Alcohol	U 1.23	U 1.23	U 1.23	U 0.0793	U 0.0793	U 0.0793	U 0.0793	U 0.0793
1,1-Dichloroethene	U 0.0793	U 0.0793	U 0.0793	U 0.0695	U 0.0695	U 0.0695	U 0.0695	U 0.0695
Methylene Chloride	U 0.0695	U 0.0695	U 0.0695	U 0.153	0.618	0.683	0.683	0.153
Trichlorotrifluoroethane	U 0.153	U 0.153	U 0.153	U 0.0793	U 0.0793	U 0.0793	U 0.0793	U 0.0793
trans-1,2-Dichloroethene	U 0.0793	U 0.0793	U 0.0793	U 0.0809	U 0.0809	U 0.0809	U 0.0809	U 0.0809
1,1-Dichloroethane	U 0.0809	U 0.0809	U 0.0809	U 0.0721	U 0.0721	U 0.0721	U 0.0721	U 0.0721
MTBE	U 0.0721	U 0.0721	U 0.0721	U 0.0704	U 0.0704	U 0.0704	0.607	0.0704
Vinyl Acetate	U 0.0704	U 0.0704	U 0.0704	5.14	0.0590	0.327	0.0590	0.0590
2-Butanone	U 0.0590	U 0.0590	U 0.0590	U 0.0793	U 0.0793	U 0.0793	U 0.0793	U 0.0793
cis-1,2-Dichloroethene	U 0.0793	U 0.0793	U 0.0793	U 0.0809	U 0.0809	U 0.0809	U 0.0809	U 0.0809
Ethyl Acetate	U 0.0721	U 0.0721	U 0.0721	U 0.0721	5.33	0.0721	U 0.0721	U 0.0721
Hexane	U 0.0705	U 0.0705	U 0.0705	U 0.0705	0.228	0.0705	0.0846	0.0705
Chloroform	U 0.0977	U 0.0977	U 0.0977	U 0.0977	0.343	0.0977	U 0.0977	U 0.0977
Tetrahydrofuran	U 0.0590	U 0.0590	U 0.0590	U 0.0809	4.54	0.0590	U 0.0590	U 0.0590
1,2-Dichloroethane	U 0.0809	U 0.0809	U 0.0809	U 0.109	11.7	0.0809	U 0.0809	U 0.0809
1,1,1-Trichloroethane	U 0.109	U 0.109						
Benzene	U 0.0639	U 0.0639	U 0.0639	U 0.126	0.172	0.0639	0.0969	0.0639
Carbon Tetrachloride	U 0.126	U 0.126	U 0.126	U 0.0688	0.559	0.126	0.456	0.126
Cyclohexane	U 0.0688	U 0.0688	U 0.0688	U 0.0924	0.0836	0.0688	U 0.0688	U 0.0688
1,2-Dichloropropane	U 0.0924	U 0.0924	U 0.0924	U 0.0924	0.118	0.0924	U 0.0924	U 0.0924
1,4-Dioxane	U 0.0721	U 0.0721	U 0.0721	U 0.107	0.171	0.0721	U 0.0721	U 0.0721
Trichloroethene	U 0.107	U 0.107	U 0.107	U 0.0820	U 0.107	U 0.107	U 0.107	U 0.107
Heptane	U 0.0820	U 0.0820	U 0.0820	U 0.0908	0.366	0.0820	U 0.0820	U 0.0820
cis-1,3-Dichloropropene	U 0.0908	U 0.0908	U 0.0908	U 0.0819	U 0.0908	U 0.0908	U 0.0908	U 0.0908
Methyl Isobutyl Ketone	U 0.0819	U 0.0819	U 0.0819	U 0.0908	0.632	0.0819	U 0.0819	U 0.0819
trans-1,3-Dichloropropene	U 0.0908	U 0.0908	U 0.0908	U 0.109	U 0.0908	U 0.0908	U 0.0908	U 0.0908
1,1,2-Trichloroethane	U 0.109	U 0.109						
Toluene	U 0.0754	U 0.0754	U 0.0754	U 0.0819	2.03	0.0754	0.159	0.0754
2-Hexanone	U 0.0819	U 0.0819	U 0.0819	U 0.170	0.267	0.0819	U 0.0819	U 0.0819
Dibromochloromethane	U 0.170	U 0.170	U 0.170	U 0.207	0.284	0.170	U 0.170	U 0.170
1,2-Dibromoethane	U 0.154	U 0.154	U 0.154	U 0.136	U 0.154	U 0.154	U 0.154	U 0.154
Tetrachloroethene	U 0.136	U 0.136						
Chlorobenzene	U 0.0921	U 0.0921	U 0.0921	U 0.0868	U 0.0921	U 0.0921	U 0.0921	U 0.0921
Ethylbenzene	U 0.0868	U 0.0868	U 0.0868	U 0.0868	1.41	0.0868	U 0.0868	U 0.0868
m&p-Xylene	U 0.0868	U 0.0868	U 0.0868	U 0.0868	1.96	0.0868	U 0.0868	U 0.0868
Bromoform	U 0.207	U 0.207	U 0.207	U 0.0852	0.806	0.207	U 0.207	U 0.207
Styrene	U 0.0852	U 0.0852	U 0.0852	U 0.137	7.82	0.0852	U 0.0852	U 0.0852
1,1,2,2-Tetrachloroethane	U 0.137	U 0.137						
o-Xylene	U 0.0868	U 0.0868	U 0.0868	U 0.0983	0.911	0.0868	U 0.0868	U 0.0868
p-Ethyltoluene	U 0.0983	U 0.0983	U 0.0983	U 0.0983	0.301	0.0983	U 0.0983	U 0.0983
1,3,5-Trimethylbenzene	U 0.0983	U 0.0983	U 0.0983	U 0.0983	0.239	0.0983	U 0.0983	U 0.0983
1,2,4-Trimethylbenzene	U 0.0983	U 0.0983	U 0.0983	U 0.0983	0.919	0.0983	U 0.0983	U 0.0983
1,3-Dichlorobenzene	U 0.120	U 0.120						
1,4-Dichlorobenzene	U 0.120	U 0.120						
1,2-Dichlorobenzene	U 0.120	U 0.120	U 0.120	U 0.105	0.939	0.105	U 0.120	U 0.120
Naphthalene	U 0.105	U 0.105	U 0.105				U 0.105	U 0.105

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Table 1.2 (cont) Result of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
 WA# SERAS-001, St. John Methyl Bromide Response

Page 2 of 2

Method: SERAS SOP 1814

Analyte	R503006-03		R503006-05	
	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Results $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$
	Sample Number	Sample Location	Sample Number	Sample Location
Propylene	6.67	17.2	2.53	0.344
Dichlorodifluoromethane	U	4.95	1.02	0.0989
Chloromethane	131	2.07	118	2.07
Dichlorotetrafluoroethane	U	6.99	U	0.140
Vinyl Chloride	U	2.56	U	0.0511
1,3-Butadiene	U	2.21	U	0.0442
Bromomethane	3940	3.88	4330	3.88
Chloroethane	U	2.64	U	0.0528
Acetone	82.2	59.4	141	59.4
Trichlorofluoromethane	U	5.62	1.28	0.112
Isopropyl Alcohol	U	61.5	22.2	1.23
1,1-Dichloroethene	U	3.96	U	0.0793
Methylene Chloride	U	3.47	0.273	0.0695
Trichlorotrifluoroethane	U	7.66	0.648	0.153
trans-1,2-Dichloroethene	U	3.96	U	0.0793
1,1-Dichloroethane	U	4.05	U	0.0809
MTBE	U	3.61	U	0.0721
Vinyl Acetate	U	3.52	U	0.0704
2-Butanone	U	2.95	5.28	0.0590
cis-1,2-Dichloroethene	U	3.96	U	0.0793
Ethyl Acetate	5.35	3.60	5.39	0.0721
Hexane	U	3.52	0.199	0.0705
Chloroform	U	4.88	0.338	0.0977
Tetrahydrofuran	3.87	2.95	4.78	0.0590
1,2-Dichloroethane	14.8	4.05	11.9	0.0809
1,1,1-Trichloroethane	U	5.46	U	0.109
Benzene	U	3.19	0.162	0.0639
Carbon Tetrachloride	U	6.29	0.515	0.126
Cyclohexane	U	3.44	U	0.0688
1,2-Dichloropropane	U	4.62	0.116	0.0924
1,4-Dioxane	U	3.60	U	0.0721
Trichloroethene	U	5.37	U	0.107
Heptane	U	4.10	0.425	0.0820
cis-1,3-Dichloropropene	U	4.54	U	0.0908
Methyl Isobutyl Ketone	U	4.10	0.658	0.0819
trans-1,3-Dichloropropene	U	4.54	U	0.0908
1,1,2-Trichloroethane	U	5.46	U	0.109
Toluene	U	3.77	2.02	0.0754
2-Hexanone	U	4.10	0.315	0.0819
Dibromochloromethane	U	8.52	0.284	0.170
1,2-Dibromoethane	U	7.68	U	0.154
Tetrachloroethene	U	6.78	U	0.136
Chlorobenzene	U	4.60	U	0.0921
Ethylbenzene	U	4.34	1.46	0.0868
m&p-Xylene	U	4.34	2.02	0.0868
Bromoform	U	10.3	0.851	0.207
Styrene	6.80	4.26	7.77	0.0852
1,1,2,2-Tetrachloroethane	U	6.87	U	0.137
o-Xylene	U	4.34	0.962	0.0868
p-Ethyltoluene	U	4.92	0.310	0.0983
1,3,5-Trimethylbenzene	U	4.92	0.247	0.0983
1,2,4-Trimethylbenzene	U	4.92	0.941	0.0983
1,3-Dichlorobenzene	U	6.01	U	0.120
1,4-Dichlorobenzene	U	6.01	U	0.120
1,2-Dichlorobenzene	U	6.01	U	0.120
Naphthalene	U	5.24	0.982	0.105

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Table 1.3. Results of TICs for VOC in Air
 WA# SERAS-001, St. John Methyl Bromide Response

Page 1 of 1

<u>Sample Number:</u>	<u>Location</u>	<u>Analyte</u>	<u>RT</u>	<u>Concentration*</u> (ppbv)
PSMethodBlank 032615-01		No non-targets were found		
55003	Trip	Nonanal	18.21	0.114
55000	Kitchen	Acetaldehyde Ethanol Pentanal Dimethyl-Disulfide Alpha-pinene Unknown Alkene Limonene Nonanal	4.21 4.92 9.73 11.08 15.63 16.46 17.28 18.20	0.812 17.3 0.500 2.06 4.77 0.979 2.26 1.28
55001	Outside A/C	Acetaldehyde Butane Ethanol Pentane C5H8 diene Hexanal Heptanal Octanal Nonanal	4.20 4.44 4.89 5.68 5.77 12.22 14.43 16.41 18.20	0.511 0.204 0.116 0.0757 1.06 0.0611 0.0632 0.108 0.321
55002	MBR	Methane, iodo Acetic acid Unknown Alpha-pinene	5.87 6.01 7.01 15.63	4.86 5.83 6.39 4.39
55004	BR2	Acetaldehyde Ethanol Pentanal DimethylDisulfide Alpha-pinene Octanal Unknown Limonene Nonanal	4.21 4.92 9.73 11.08 15.63 16.40 16.46 17.28 18.20	0.768 15.9 0.549 2.17 4.78 0.593 0.974 2.21 1.14

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Table 2.1 Results of the LCS Analysis for VOC in Air
 WA# SERAS-001, St. John Methyl Bromide Response

Page 1 of 1

Sample ID: LCS 032615

Analyte	LCS Spike Amount ppbv	LCS Recovered ppbv	% Recovery	QC Limits % Recovery
Propylene	1.00	1.20	120	73 - 135
Dichlorodifluoromethane	1.00	1.11	111	49 - 130
Chloromethane	1.00	1.28	128	72 - 139
Dichlorotetrafluoroethane	1.00	0.928	93	59 - 99
Vinyl Chloride	1.00	1.17	117	75 - 126
1,3-Butadiene	1.00	1.04	104	65 - 113
Bromomethane	1.00	1.19	119	72 - 134
Chloroethane	1.00	1.18	118	69 - 129
Acetone	1.00	1.36	136	71 - 147
Trichlorofluoromethane	1.00	1.10	110	62 - 129
Isopropyl Alcohol	1.00	1.21	121	64 - 133
1,1-Dichloroethene	1.00	1.05	105	73 - 117
Methylene Chloride	1.00	1.08	108	71 - 115
Trichlorotrifluoroethane	1.00	1.09	109	64 - 126
trans-1,2-Dichloroethene	1.00	1.01	101	74 - 112
1,1-Dichloroethane	1.00	1.07	107	76 - 113
MTBE	1.00	0.947	95	55 - 115
Vinyl Acetate	1.00	0.945	95	80 - 98
2-Butanone	1.00	1.11	111	75 - 118
cis-1,2-Dichloroethene	1.00	0.993	99	72 - 108
Ethyl Acetate	1.00	1.16	116	97 - 122
Hexane	1.00	1.02	102	77 - 110
Chloroform	1.00	1.07	107	76 - 118
Tetrahydrofuran	1.00	1.08	108	77 - 116
1,2-Dichloroethane	1.00	1.05	105	69 - 116
1,1,1-Trichloroethane	1.00	1.11	111	84 - 119
Benzene	1.00	1.07	107	82 - 113
Carbon Tetrachloride	1.00	1.11	111	78 - 118
Cyclohexane	1.00	1.08	108	85 - 114
1,2-Dichloropropane	1.00	1.09	109	83 - 119
1,4-Dioxane	1.00	1.16	116	53 - 145
Trichloroethene	1.00	1.09	109	79 - 115
Heptane	1.00	1.10	110	87 - 122
cis-1,3-Dichloropropene	1.00	1.15	115	93 - 121
Methyl Isobutyl Ketone	1.00	1.21	121	86 - 135
trans-1,3-Dichloropropene	1.00	1.05	105	85 - 112
1,1,2-Trichloroethane	1.00	1.22	122	63 - 136
Toluene	1.00	1.15	115	61 - 125
2-Hexanone	1.00	1.29	129	71 - 151
Dibromochloromethane	1.00	1.23	123	67 - 134
1,2-Dibromoethane	1.00	1.19	119	62 - 133
Tetrachloroethene	1.00	1.14	114	52 - 125
Chlorobenzene	1.00	1.17	117	59 - 128
Ethylbenzene	1.00	1.14	114	65 - 125
m&p-Xylene	2.00	2.26	113	63 - 189
Bromoform	1.00	1.16	116	62 - 127
Styrene	1.00	1.25	125	69 - 143
1,1,2,2-Tetrachloroethane	1.00	1.16	116	66 - 139
o-Xylene	1.00	1.17	117	70 - 134
p-Ethyltoluene	1.00	1.16	116	68 - 127
1,3,5-Trimethylbenzene	1.00	1.13	113	66 - 126
1,2,4-Trimethylbenzene	1.00	1.10	110	69 - 121
1,3-Dichlorobenzene	1.00	1.24	124	63 - 142
1,4-Dichlorobenzene	1.00	1.25	125	65 - 142
1,2-Dichlorobenzene	1.00	1.13	113	58 - 125
Naphthalene	1.00	1.25	125	58 - 149

*Indicates out of the criteria

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Table 2.2 Results of the Duplicate Analysis for VOC in Air
 WVA# SERAS-001, St. John Methyl Bromide Response

Sample: 55001

Page 1 of 1

Analyte	Initial Analysis ppbv	Duplicate Analysis ppbv	RPD	QC Limit RPD
Propylene	0.265	0.230	14	≤25
Dichlorodifluoromethane	0.279	0.244	13	≤25
Chloromethane	0.852	0.874	3	≤25
Dichlorotetrafluoroethane	U	U	NC	≤25
Vinyl Chloride	U	U	NC	≤25
1,3-Butadiene	U	U	NC	≤25
Bromomethane	1.04	1.28	21	≤25
Chloroethane	U	U	NC	≤25
Acetone	2.23	2.36	6	≤25
Trichlorofluoromethane	0.239	0.273	13	≤25
Isopropyl Alcohol	U	U	NC	≤25
1,1-Dichloroethene	U	U	NC	≤25
Methylene Chloride	0.0716	0.0829	15	≤25
Trichlorotrifluoroethane	0.0892	0.107	18	≤25
trans-1,2-Dichloroethene	U	U	NC	≤25
1,1-Dichloroethane	U	U	NC	≤25
MTBE	U	U	NC	≤25
Vinyl Acetate	0.172	0.191	10	≤25
2-Butanone	0.111	0.110	0.9	≤25
cis-1,2-Dichloroethene	U	U	NC	≤25
Ethyl Acetate	U	U	NC	≤25
Hexane	0.0240	0.0259	8	≤25
Chloroform	U	U	NC	≤25
Tetrahydrofuran	U	U	NC	≤25
1,2-Dichloroethane	U	U	NC	≤25
1,1,1-Trichloroethane	U	U	NC	≤25
Benzene	0.0303	0.0331	9	≤25
Carbon Tetrachloride	0.0724	0.0792	9	≤25
Cyclohexane	U	U	NC	≤25
1,2-Dichloropropane	U	U	NC	≤25
1,4-Dioxane	U	U	NC	≤25
Trichloroethene	U	U	NC	≤25
Heptane	U	U	NC	≤25
cis-1,3-Dichloropropene	U	U	NC	≤25
Methyl Isobutyl Ketone	U	U	NC	≤25
trans-1,3-Dichloropropene	U	U	NC	≤25
1,1,2-Trichloroethane	U	U	NC	≤25
Toluene	0.0423	0.0463	9	≤25
2-Hexanone	U	U	NC	≤25
Dibromochloromethane	U	U	NC	≤25
1,2-Dibromoethane	U	U	NC	≤25
Tetrachloroethene	U	U	NC	≤25
Chlorobenzene	U	U	NC	≤25
Ethylbenzene	U	U	NC	≤25
m,p-Xylene	U	0.0249	NC	≤25
Bromoform	U	U	NC	≤25
Styrene	U	U	NC	≤25
1,1,2,2-Tetrachloroethane	U	U	NC	≤25
o-Xylene	U	U	NC	≤25
p-Ethyltoluene	U	U	NC	≤25
1,3,5-Trimethylbenzene	U	U	NC	≤25
1,2,4-Trimethylbenzene	U	0.0218	NC	≤25
1,3-Dichlorobenzene	U	U	NC	≤25
1,4-Dichlorobenzene	U	U	NC	≤25
1,2-Dichlorobenzene	U	U	NC	≤25
Naphthalene	U	U	NC	≤25

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REAC, Edison, NJ
(732) 321-4200
EPA Contract 68-C99-223

CHAIN OF CUSTODY RECORD

Project Name: S. JOHN GR

Project Number: 0-00

LM Contact: Babs S Phone: 609-865-9304

No: 00263
Sheet 01 of 01 (Do not copy)
(for addnl. samples use new form)

Sheet 01 of 01 (Do not copy)
(for addnl. samples use new form)

(for addnl. samples use new form)

ed

WOT# R503006 Sample Identification

Analyses Requested

REAC#	Sample No	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Analyses Requested				
							Date	Time	Volume	Meter	Summary
01	55000	KITCHEN	A	3/24/05	1	Summa/pone	3/24/05	13:15	6(L)	✓	14222
02	55001	OUTSIDE A/C	A	3/24/05	1	Summa/pone	3/24/05	14:12	6(L)	✓	250

~~DATA~~

Matrix

A- Air
AT-Animal Tissue
DL- Drum Liquids
DS- Drum Solids
GW- Groundwater
O- Oil
PR-Product
PT-Plant Tissue

PW- Potable Water
S- Soil
SD- Sediment
SL- Sludge
SW- Surface Water
TX-TCLP Extract
W- Water
X- Other

Special Instructions:

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #:

REAC, Edison, NJ
(732) 321-4200
EPA Contract 68-C99-223

CHAIN OF CUSTODY RECORD

PROJECT NAME

Project Number: 0-001

LM Contact: DuBose Phone: 609-865-9304

No: 00227
Sheet 01 of 01 (Do not copy)
(for addnl. samples use new form)

W0#R503006

Sample Identification

REAC#	Sample No	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Analyses Requested		
							Date	Time	McBr
03	55002	MGR	A	3/24/15	1	Summa/none	3/24/15	1314	✓
04	55003	TRIP	A	3/24/15	1	Summa/none	3/24/15	1230	✓

Matrix 2

A-Air

AT-Animal Tissue
DL- Drum Liquids
DS- Drum Solids
GW- Groundwater
O- Oil
PR-Product
PT- Plant Tissue

PW- Potable Water
 S- Soil
 SD- Sediment
 SL- Sludge
 SW- Surface Water
 TX-TCLP Extract
 W- Water
 X- Other

Special Instructions:

Analyses for ~~Mer~~^(A) methyl bromide

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #:

REAC, Edison, NJ
(732) 321-4200
EPA Contract 68-C99-223

CHAIN OF CUSTODY RECORD

Project Name: St John ER
Project Number: Q-001
LM Contact: DWBois Phone: 609-86

No: 00898
Sheet 01 of 01 (Do not copy)
(for addnl. samples use new form)

W0#R503006

Sample Identification

Matrix:

- A- Air
- AT-Animal Tissue
- DL- Drum Liquids
- DS- Drum Solids
- GW- Groundwater
- O- Oil
- PR-Product
- PT-Plant Tissue

PW- Potable Water
 S- Soil
 SD- Sediment
 SL- Sludge
 SW- Surface Water
 TX-TCLP Extract
 W- Water
 X- Other

Special Instructions:

Catalysis for methyl bromide

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #:

R2 SirenUSA Kahn RIF 00036 011